

AMENDMENTS TO THE SPECIFICATION

Please replace the first through fourth paragraphs beginning on page one bridging page 2 with the following amended paragraph:

~~The present invention provides a display apparatus having two active matrix liquid crystal display panels, with a switching element provided on each pixel unit, where a second display panel can be driven via an electrode provided on a substrate of a first display panel.~~

~~The present invention also provides a configuration that has, on at least one of a first substrate and a second substrate, an inter panel switching element which controls passage and non passage of a signal between an electrode provided on the first substrate and an electrode provided on the second substrate based on presence or absence of display of the second display panel, thereby saving unnecessary display of a display panel and reducing power consumption.~~

~~The present invention also provides a display apparatus that has a protection element which prevents degradation of a liquid crystal due to static electricity or prevents degradation of a switching element, on any one of the substrates constituting the first display panel and the second display panel, near an inter panel connector connecting the first display panel and the second display panel.~~

~~The present invention also provides a display apparatus that has an active matrix display panel and a passive matrix display panel, and that converts a signal for driving a display panel of either one of the driving systems, thereby driving a display panel of the other driving system.~~

The present invention relates to a technology for reducing the number of panel driving circuits of a display apparatus having a plurality of display panels, and for minimizing the mounting area of the display apparatus.

Page 6, delete the first full paragraph and replace with the following paragraph:

A configuration of driving the first display panel 4 and the second display panel 5 with an integral driving circuit, and connecting the first display panel 4 and the second display panel 5 with an inter-panel connector, is publicly known (see, for example, ~~Patent Literature 2 (Japanese Patent Application Laid-open No. 2001-282145 Publication (P.3 - P.4, and Fig. 1)))~~ Japanese Patent Application Laid-open No. 2001-282145 Publication (P.3 - P.4, and Fig. 1)). However, according to the ~~Patent Literature 2~~ above literature, a method of connecting the second display panel 5 and a connection electrode of the driving circuit, and a method of connecting a column electrode or a row electrode of the first display panel 4 to the second display panel 5, are not disclosed. Therefore, the Patent Literature 2 makes no disclosure of the following techniques intended by the present invention. The present invention provides a technique of extending the electrode used in the display area of the first display panel 4, and connecting the row electrode and the column electrode to the second display panel 5, thereby reducing the number of output from the driving circuit. The present invention also provides a technique of providing an inter-panel switching element between the first display panel 4 and the second display panel 5.

Page 23, delete the second line as follows:

~~(Configuration of electrode wiring between two display panels)~~

Page 23, delete the third line as follows:

~~<First Embodiment>~~

Page 23, delete the first full paragraph and insert the following paragraph:

~~A best mode of a display apparatus for carrying out the present invention is explained below with reference to the drawings.~~ A first display panel 4 is a main liquid crystal display panel, a second display panel 5 is a sub liquid crystal display panel, and all electrodes of the second display panel 5 are wired via electrodes of the first display panel 4 disposed opposite with liquid crystal layer in between. The electrode of the second display panel 5 is connected to the electrode of the first display panel with an inter-panel connector provided between the second display panel 5 and the first display panel 4. Fig. 1 is a perspective view of the display apparatus according to a first embodiment of the present invention, with a front cover of the display apparatus opened. Fig. 2 is a perspective view of the display apparatus according to the first embodiment, with the front cover of the display apparatus closed; Fig. 3 is a cross-section of a part of a display panel block cut along a line A-A in Fig. 2, Fig. 4 is a top plan view of the display panels shown in Fig. 3, which are developed in plane, Fig. 5 is an enlarged top plan view of a part of a driving circuit of the first display panel 4, and Fig. 6 is an enlarged top plan view of a part of a connector between the first display panel 4 and the second display panel 5. A portable telephone according to the first embodiment is explained below by alternately using Fig. 1, Fig. 2, Fig. 3, Fig. 4, Fig. 5, Fig. 6, and Fig. 7.

Page 27, delete the first full paragraph and insert the following paragraph:

In Fig. 7, a reference numeral 3647 denotes a panel input FPC electrode, 6085 denotes an IC bump, 87 denotes an IC mounting conductive particle, 88 denotes an FPC mounting polyimide resin, 89 denotes an FPC mounting conductive particle, 90 denotes an FPC reinforcing

member, 59 denotes an external input pad electrode, 35 denotes a flexible printed substrate, and 31 denotes a driving circuit.

Page 27, delete the second full paragraph and insert the following paragraph:

Representative examples of the first electrode 2 and the third electrode 3 are shown in Fig. 4. In Fig. 4, a reference numeral 25 denotes a first panel pixel unit, and 26 denotes a second panel pixel unit. For the first electrode 2, source electrodes from a first c₁ to a 50-th c₅₀ are connected to one of the driving circuits 31, and a 51-st c₅₁ to a 100-th c₁₀₀ are connected to the other first driving circuit 31. Source electrodes c₆₁ to c₁₀₀ pass from the display area of the first display panel 4 to the first sealing portion 14, reach the end of one side of the first display panel 4, and are electrically connected to an inter-panel FPC first electrode 48 provided on the inter-panel FPC 43, using an anisotropic conductive film (ACF) of a first inter-panel connector 42. In Fig. 4, source electrodes of c₂ to c₄₉, c₅₂ to c₆₀ and c₆₂ to c₉₉ are not shown.

Page 31, delete the first full paragraph and insert the following paragraph:

While not shown in Fig. 5, a signal is also applied to the second driving circuit ~~board~~ 34 from the flexible printed substrate 35, a part of the third electrode 3 as the gate electrode is extended to the inter-panel FPC 43, and a gate electrode signal is applied to the second display panel 5 via the inter-panel FPC 43.

Page 33, line 19, delete the heading "Second Embodiment".

Page 34, delete the second full paragraph and insert the following paragraph:

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In Fig. 8, representative examples of the first electrode 2 and the third electrode 3 are shown. The source electrodes from the first c_1 to the 50-th c_50 as the first electrode 2 are connected to one first driving circuit 31; and the 51-st c_51 to the 100-th c_100 are connected to the other first driving circuit 31. The source electrodes of c_61 to c_100 pass from the display area of the first display panel 4 to the first sealing portion 14, and reach the end of one side of the first display panel 4, and are electrically connected to the inter-panel FPC first electrode 48 provided on the inter-panel FPC, using the ACF of the first inter-panel connector 42. In Fig. 8, source electrodes of c_2 to c_49, c_52 to c_60 and c_62 to c_99 are not shown.

Page 35, delete the second full paragraph and insert the following paragraph:

A thin-film transistor is provided on the third substrate 11. A color filter and the fourth electrode 17 as a counter electrode, are provided on the fourth substrate 16. The third substrate 11 and the fourth substrate 16 constitute the second display panel 5. The electrodes of the first display panel 4 and those of the second display panel 5 are electrically connected, using the electrode provided on the inter-panel FPC and the second inter-panel connector 46. That is to say, corresponding gate electrodes are electrically connected, like r_30 and r_30, and r_80 and r_80. Also, corresponding source electrodes are electrically connected, like c_61 of the first display panel 4 and c_61 of the second display panel 5, and c_100 and c_100.

Page 36, delete the last full paragraph and insert the following paragraph:

This configuration is explained in detail based on the following example. On the first display panel 4, the number of the first electrodes is 100, and IC's (a first driving IC and a second driving IC) having 50 outputs are used. The number of the third~~second~~ electrodes is 80,

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and one IC is used. In this example, the first display panel 4 has a laterally long display. To stop one first driving IC, the number of electrodes on one side of the second display panel 5 becomes 50. Therefore, a proper number of electrodes of the second display panel 5 is 50×40. To carry out a vertically long display on the second display panel 5, it is preferable to dispose 50 electrodes in a vertical direction and dispose 40 electrodes in a lateral direction. To carry out a graphical display, it is preferable that pixels are arranged in substantially a square shape.

Page 37, line 22, delete the heading "Third Embodiment".

Page 38, delete the last full paragraph and insert the following paragraph:

In Fig. 9, representative examples of the first electrode 2 and the third electrode 3 are shown. The source electrodes including the first c₁ to the 50-th c₅₀ as the first electrode 2 are connected to one first driving circuit 31; and the 51-st c₅₁ to the 100-th c₁₀₀ are connected to the other first driving circuit 31. The source electrodes of c₆₁ to c₁₀₀ pass from the display area of the first display panel 4 to the first sealing portion 14, and reach the end of one side of the first display panel 4, connected to the inter-panel switching element 91 that can select whether to apply a signal to the source electrode of the second display panel 5, and are electrically connected to the inter-panel FPC first electrode 48 provided on the inter-panel FPC 43, using the ACF of the first inter-panel connector 42. In Fig. 9, source electrodes of c₂ to c₄₉, c₅₂ to c₆₀ and c₆₂ to c₉₉ are not shown.

Page 40, delete the last full paragraph and insert the following paragraph:

A source electrode c₆₂ has a liquid crystal pixel LC₆₂. A thin-film transistor T₆₂ is present between LC₆₂ and the source electrode c₆₂. T₆₂ has a source electrode s₆₂ and a

drain electrode d_62, and has a gate electrode g_62 as a switching control terminal. The gate electrode g_62 is connected to r_1 as the third electrode 3. The other side of the liquid crystal pixel LC_62 is connected to the second electrode 7.

Page 41, delete the first full paragraph and insert the following paragraph:

The source electrode c_61 is connected to SDS_61 corresponding to the source electrode of a thin-film transistor SD_61 provided in the inter-panel switching element 91 provided on the external periphery of the display area. The thin-film transistor SD_61 is provided in the inter-panel switching element 91 and includes the source electrode SDS_61e-61, the drain electrode SDD_61 that is connected to c_61 of the second display panel 5, and a gate electrode SDG_61.

Page 41, delete the second full paragraph and insert the following paragraph:

Similarly, the source electrode c_62 is connected to SDS_62 corresponding to the source electrode of a thin-film transistor SD_62 provided in the inter-panel switching element 91 provided on the external periphery of the display area. The thin-film transistor SD_62 is provided in the inter-panel switching element 91 and includes the source electrode SDS_61e-61, the drain electrode SDD_62 that is connected to SDS_62e-62 of the second display panel 5, and a gate electrode SDG_62.

Page 43, delete line 2, the heading "Fourth Embodiment".

Page 44, delete the last full paragraph and insert the following paragraph:

In other words, the source electrodes provided on the display area of the first display panel 4 include two kinds of source electrodes, that is, the source electrodes that are connected to the electrodes on the external periphery of the second display panel 5, and the

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source electrodes provided in the display area of the second display panel 5. All source electrodes are connected via the inter-panel switching element 91 provided on the external periphery of the first display panel 4. The source electrodes c_2 to c_5949 and c_62 to c_99 are not shown in Fig. 11.

Page 48, delete line 2, the heading "Fifth Embodiment".

Page 51, delete the second full paragraph and insert the following paragraph:

A light guide groove 139 that fixes the inter-panel FPC 43 is provided on the light guide 95 that constitutes the backlight unit. A FPC-light guide adhering member 138~~panel photoconductive plate adhering member 138~~ is provided between the inter-panel FPC 43 and the light guide groove 139, to fix the inter-panel FPC 43 to the light guide groove 139. The inter-panel FPC 43 can be firmly fixed to the light guide with the two kinds of fixing members. The light guide groove 139 is provided on other than the side on which an electroluminescent (EL) element (not shown) is provided.

Page 52, delete the last full paragraph and insert the following paragraph:

The first display panel 4 has the first retardation film 21, and the first polarizing film 20 laminated in this order, on the opposite side of the first liquid crystal layer 9 of the second substrate 6. A second retardation film 23 and a second polarizing film 22 are laminated in this order on the opposite side of the first liquid crystal layer 9 of the first substrate 1. A laminated film of plural retardation films can be used for the first retardation film 21 or the second retardation film 23.

Page 53, delete the second full paragraph and insert the following paragraph:

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The second display panel 5 has the following configuration. The third substrate 11 is provided on the light guide 95. The third substrate 11 is adhered with the fourth substrate 16, with a predetermined gap between the two substrates, using the second sealing member 15, and a second liquid crystal layer 19 is sealed in the gap. The second inter-panel connection electrode 1242 that is connected to the inter-panel FPC 43 which transmits a signal from the first display panel 4 to the second display panel 5 is provided on the third substrate 11.

Page 53, delete the third full paragraph and insert the following paragraph:

The second inter-panel connection electrode 1242 that is connected to the inter-panel FPC 43 is mounted by applying thermal pressure using the ACF via the second inter-panel connector 46.

Page 59, line 13, delete the heading "Sixth Embodiment".

Page 60, line 4, delete the heading "Seventh Embodiment".

Page 62, line 6, delete the heading "Eighth Embodiment".

Page 63, line 16, delete the heading "Ninth Embodiment".

Page 65, delete the second full paragraph and insert the following paragraph:

When the display of the first display panel 4 is not necessary based on the above configuration, the display of the first display panel 4 can be turned off, thereby substantially reducing power consumption. The display apparatus can have a protection element that disperses static electricity generated in the each of source and gate electrodes, the inter-panel switching element 91, and the switching element 93. ~~(Connection configuration of the active matrix liquid crystal display panel and the passive matrix liquid crystal display panel)~~

Page 66, line 18, delete the heading "Tenth Embodiment".

Page 69, delete the last full paragraph and insert the following paragraph:

The gate signal frequency converting circuit 211, the gate driving voltage converting circuit 212, the source signal frequency converting circuit 213, the source driving voltage converting circuit 214, the gradation memory circuit 215, and the gradation signal generating circuit 216 can be configured according to techniques publicly known. ~~(Connection configuration of the liquid crystal display panel and the organic LED display panel)~~

Page 71, line 12, delete the heading "Eleventh Embodiment",

Page 71, delete the second full paragraph and insert the following paragraph:

According to the eleventh embodiment, the first display panel ~~4204~~4204 in the configuration shown in Fig. 24 is an active matrix liquid crystal display panel including a thin-film transistor made of a polysilicon semiconductor layer in each pixel unit, and the second display panel ~~5205~~5205 is a passive matrix organic LED display panel. The electrode on the connection member 243 is connected to the connection electrode 336 on the organic LED display panel 5205 in the configuration shown in Fig. 28. The input electrode 337 is not provided. Because the organic LED display panel is a passive matrix type, the thin-film transistor 309 is not provided on the substrate 301. The configuration of the passive matrix type LED display panel is publicly known, and therefore, a diagram and a detailed explanation are omitted.

Page 73, line 20, delete the heading "Twelfth Embodiment".

Page 76, line 18, delete the heading "Thirteenth Embodiment".

Page 79, delete the heading "(Configuration having three or more display panels)

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Page 79, line 23, delete the heading "Fourteenth Embodiment".

Page 82, line 7, delete the heading "Fifteenth Embodiment".

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Please delete the present Abstract of the Disclosure.

Please add the following new Abstract of the Disclosure:

A display apparatus includes a first display panel including a first electro-optic display medium, a first electrode-line group having a plurality of electrode lines to supply a driving signal to the first electro-optic display medium, and an active element that controls supply of the driving signal to the first electro-optic display medium; a second display panel including a second electro-optic display medium, and a second electrode-line group having a plurality of electrode lines to supply a driving signal to the second electro-optic display medium; and a connecting member that connects the first display panel and the second display panel. At least a part of the electrode lines of the first electrode-line group are connected to a part or all of the electrode lines of the second electrode-line group via the connecting member.